



50B5

# BEAM POWER AMPLIFIER

MINIATURE TYPE

50B5

## GENERAL DATA

### Electrical:

Heater, for Unipotential Cathode:

Voltage. . . . . 50 . . . . . ac or dc volts  
Current. . . . . 0.15 . . . . . amp.

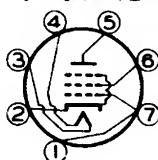
Direct Interelectrode Capacitances (Approx.):<sup>o</sup>

Grid-No.1 to Plate . . . . . 0.5 . . . . .  $\mu\text{f}$   
Input. . . . . 13 . . . . .  $\mu\text{f}$   
Output . . . . . 6.5 . . . . .  $\mu\text{f}$

### Mechanical:

Mounting Position. . . . . Any  
Maximum Overall Length . . . . . 2-5/8"  
Maximum Seated Length. . . . . 2-3/8"  
Length from Base Seat  
to Bulb Top (excluding tip). . . . . 2"  $\pm$  3/32"  
Maximum Diameter . . . . . 3/4"  
Bulb . . . . . T-5-1/2  
Base . . . . . Miniature Button 7-Pin  
Basing Designation for BOTTOM VIEW . . . . . 7BZ

Pin 1-Grid No.1  
Pin 2-Cathode,  
Grid No.3  
Pin 3-Heater



Pin 4-Heater  
Pin 5-Plate  
Pin 6-Grid No.2  
Pin 7-Grid No.1

## CLASS A<sub>1</sub> AMPLIFIER

### Maximum Ratings, Design-Center Values:

PLATE VOLTAGE. . . . . 117 max. volts  
GRID-No.2 (SCREEN) VOLTAGE . . . . . 117 max. volts  
PLATE DISSIPATION. . . . . 5.5 max. watts  
GRID-No.2 DISSIPATION. . . . . 1.25 max. watts

### PEAK HEATER-CATHODE VOLTAGE:

Heater negative with respect to cathode. . . . . 90 max. volts  
Heater positive with respect to cathode. . . . . 90 max. volts

### Typical Operation and Characteristics:

Plate Voltage. . . . . 110 . . . volts  
Grid-No.2 Voltage. . . . . 110 . . . volts  
Grid-No.1 Voltage. . . . . -7.5 . . . volts  
Peak A-F Grid-No.1 Voltage . . . . . 7.5 . . . volts  
Zero-Signal Plate Current. . . . . 49 . . . ma.  
Max.-Signal Plate Current. . . . . 50 . . . ma.

<sup>o</sup>With no external shield.

JAN. 2, 1946

RCA VICTOR DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

TENTATIVE DATA

50B5



50B5

**BEAM POWER AMPLIFIER**

|                                         |       |            |
|-----------------------------------------|-------|------------|
| Zero-Signal Grid-No.2 Current (Approx.) | 4     | ma.        |
| Max.-Signal Grid-No.2 Current (Approx.) | 8.5   | ma.        |
| Plate Resistance (Approx.)              | 14000 | ohms       |
| Transconductance                        | 7500  | $\mu$ mhos |
| Load Resistance                         | 2500  | ohms       |
| Total Harmonic Distortion               | 9     | %          |
| Max.-Sig. Power Output                  | 1.9   | watts      |

**Maximum Circuit Values** (for maximum rated conditions):

|                        |              |     |        |
|------------------------|--------------|-----|--------|
| Grid-No.1-Circuit Res. | fixed bias   | 0.1 | megohm |
|                        | cathode bias | 0.5 | megohm |

JAN. 2, 1946

RCA VICTOR DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

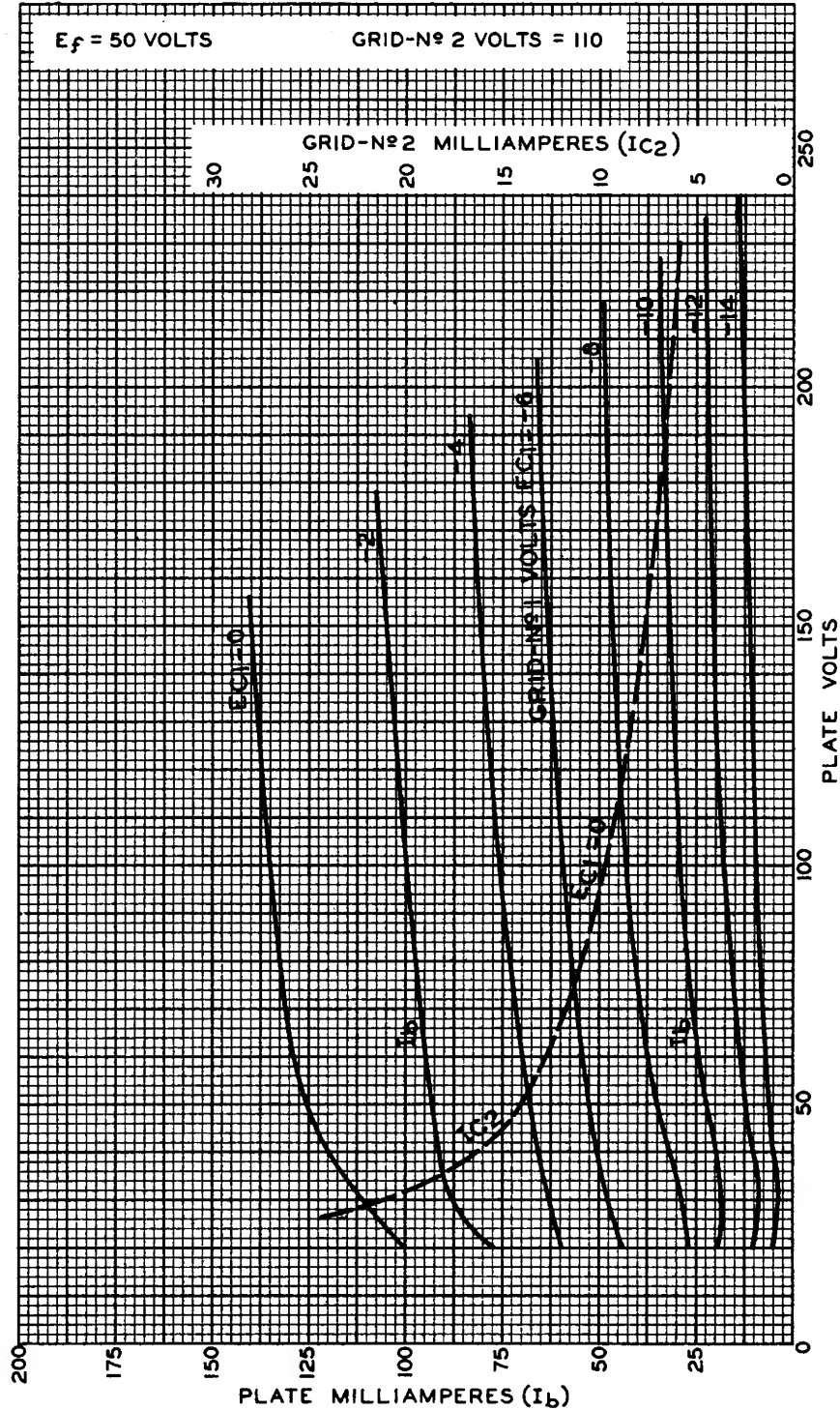
TENTATIVE DATA



50B5

AVERAGE PLATE CHARACTERISTICS  
PENTODE CONNECTION

50B5



OCT. 8, 1945

RCA VICTOR DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

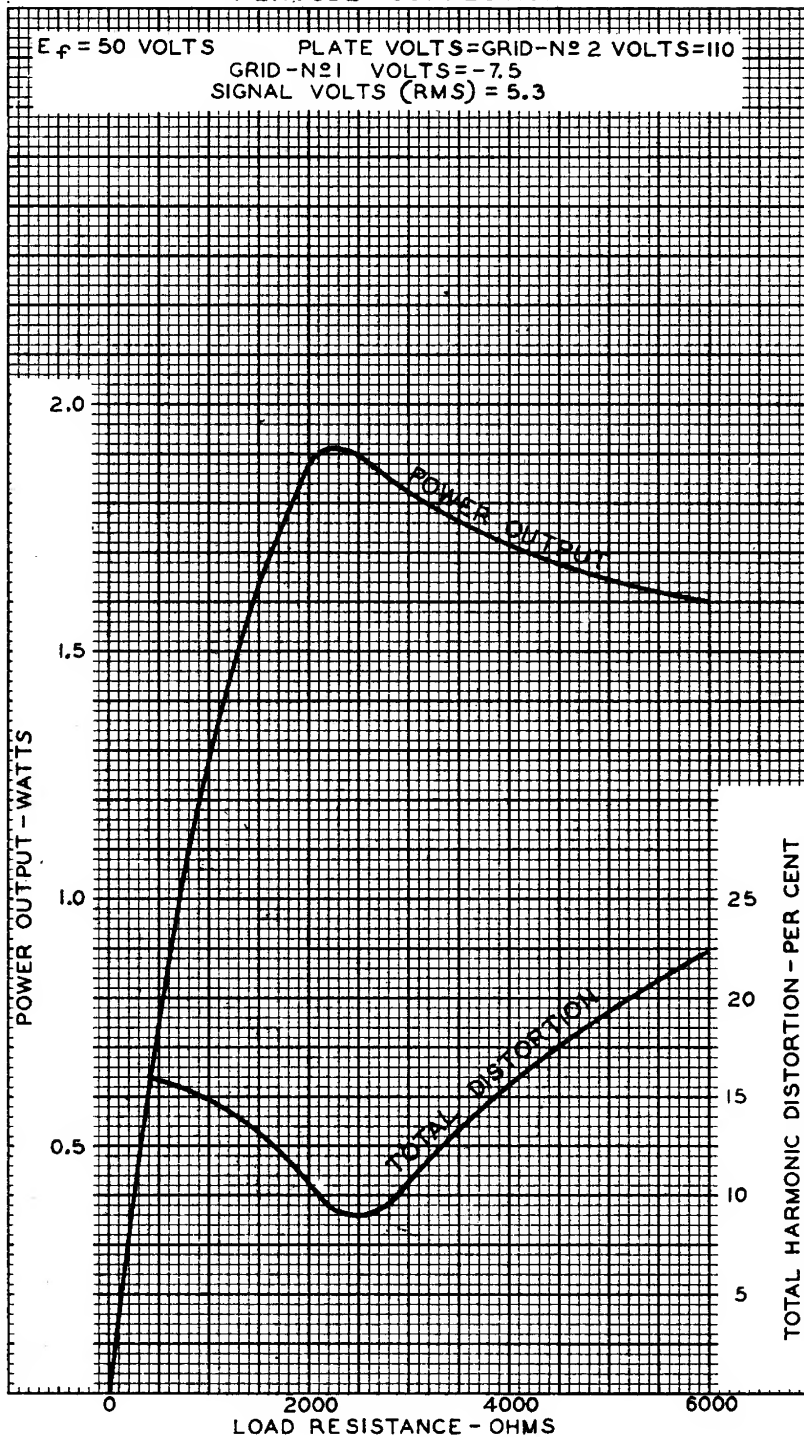
92CM-6603

50B5



50B5

# OPERATION CHARACTERISTICS PENTODE CONNECTION



OCT. 24, 1945

RCA VICTOR DIVISION  
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CM-6612